PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Selection, necessary work and installation of modular precast trench drain systems at locations shown on site drawings.

1.02 RELATED SECTIONS

A. Division 03 Section: Concrete Forming.

1.03 SYSTEM DESCRIPTION

A. System requirements: Provide a trench drain system of prefabricated modular components. The system can incorporate a frame when required to carry the specified load.

B. Gratings shall comply with the load requirements of AASHTO or DIN/EN loading specifications as required by the Engineer.

C. Integral frames which extend onto the concrete slab shall include consolidation vent ports which help minimize air entrapment under the frame when proper vibration techniques are used.

D. Frames which extend onto the concrete slab shall include anchoring studs which secure the frame into the surrounding concrete. Anchoring studs shall be a minimum of 0.5 in (6 mm) in diameter, and shall extend at least 3 in (75 mm) from the frame. The anchor studs shall be spaced 24 in (610 mm) or less along the length of the grate.

E. Installation chairs which support the channels and help resist system floating during concrete placement shall be utilized as supplied by the manufacturer. Chairs also allow for system adjustment and alignment prior to concrete placement.

F. Polymer concrete systems shall include a continuous anchoring rib at the base of each side of the channels to help resist floating during concrete placement.

G. All piping interface connections shall be compatible with PVC or ABS adhesive.

H. Fiberglass systems shall either include surface veil or gel coat on the media bearing surface with a UV inhibitor package.

1.04 REFERENCES

A. AASHTO M306 - Standard Specification for Drainage, Sewer, Utility and Related Castings.

B. American Society of Mechanical Engineers (ASME):
1. ASME A112.6.3, Section 7.12 Heel Resistant Strainers and Grates

C. The Americans with Disabilities Act (ADA) of 1990: Section 4.5.4 - Gratings

D. ASTM International (ASTM):
1. ASTM A 36 - Standard Specification for Carbon Structural Steel
2. ASTM A 48 - Standard Specification for Gray Iron Castings
3. ASTM D 536 - Standard Specification for Ductile Iron Castings
4. ASTM D 543-06 - Standard Practices for Evaluating the Resistance of Plastics to Chemical Reagents
5. ASTM D 570-05 - Standard Test Method for Water Absorption of Plastics
6. ASTM D 635-06 - Standard Test Method for Rate of Burning and/or Extent and Time of Burning Plastics in a Horizontal Position
7. ASTM D 695 – Compressive Properties of Rigid Plastics
8. ASTM D 2444-05 - Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

E. Australian Standard AS 3996 – 2006 Claus 3.3.6 - Access covers and grates

F. Deutsches Institut fur Normung e.V. (German Standards Institute) (DIN):

1. DIN EN 1433:2005, Section 9.1.3; Drainage channels for vehicular and pedestrian areas – Classification, design and testing, marking and evaluation of conformity

O. Federal Aviation Administration (FAA): 150-5320-6E – Airport Pavement Design & Evaluation, Appendix 3

1.05 SUBMITTALS

A. Submittals are to comply with Conditions of the Contract and Division 1 Submittal Procedures.

B. Product Data: Submit product data and installation instructions including manufacturer's data sheets for specified products.

1.06 DELIVERY, STORAGE & HANDLING

A. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer.

D. Handling: Protect materials and finish from damage during handling and installation

1.07 PROJECT CONDITIONS

A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings.

1.08 WARRANTY

A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

B. Manufacturer's Warranty: Upon request, submit for project acceptance, manufacturer's standard warranty document executed by authorized company official.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers:
1. Hubbell Power Systems, Inc. - Polycast® 500-Series Polymer Concrete Drain System
2. ACO Polymer Products Inc. – H100KS-8 Slab Drain
3. Jay R. Smith Mfg. Co. – 9836 Concrete Polymer Shallow Channel Series
4. Or Equal

2.02 MATERIALS

A. Material: Polymer concrete
B. Channels: 4.25 inch (108 mm) internal width (nominal).
C. Length: 48 inch (1.2 m).
D. Slope: Neutral.
E. Frames: Stainless steel
F. Grates: Stainless steel, slotted - Class A – per DIN / EN 1433.
G. Outlets: Channel bottom cut-out for 4 inch (100 mm) schedule 40 pipe.
H. Accessories: Closed end cap; Channel Installation Alignment Chairs.

PART 3 - EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Comply with all manufacturer product data, product technical bulletins, product catalog, installation instructions and installation section drawings.

3.02 EXAMINATION

A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
B. Notify Architect and Engineer of conditions that would adversely affect installation or

subsequent use. Do not proceed with installation until unsatisfactory conditions are corrected.

3.03 SITE PREPARATION

A. Surface Preparation: Ensure ground conditions are suitable. Poor site conditions require engineering advice.

B. Reinforcement: All reinforcement shall be in compliance with Concrete Reinforcing Steel Institute, as shown on the site drawings, and shall be firmly held in place during concrete placement.

C. The slab shall be designed to hold any applicable holds and shall be built with an appropriate factor of safety. The slab design and reinforcement shall be the sole responsibility of the Engineer and Contractor.

3.04 INSTALLATION

A. Install precast trench drain per manufacturer installation instructions at locations indicated on the site drawings.

B. Expansion, Construction and Control Joints: Site plans shall include the location of all concrete joints. The system shall not be used as an expansion, construction or control joint in the direction of flow. Expansion, construction and control joints oriented transverse to the direction of flow shall cross the system at a channel joint.

C. Precast Trench Drain System Installation: Ensure channels are surrounded on all sides by concrete of minimum 3000 psi (20,684 kPa) compressive strength. Check relevant installation section drawings for minimum suggested dimensions required.

D. Concrete Edge: Concrete shall be screeded and finished flush to the top surface of the trench drain system. No secondary edge-finishing tools shall be used.

E. Related Products Installation: Refer to other sections in Related Sections paragraph herein for related products installation.

3.05 FIELD QUALITY CONTROL

A. Inspection:
1. Ensure grates are in correct position and captive.
2. Ensure pipe and outlet connections are cleared and checked.

3.06 CLEANING

A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Repair or replace damaged installed products. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance. Remove construction debris from project site and legally dispose of debris.

3.07 PROTECTION

A. Protection: Protect installed product and finish surfaces from damage during construction.

END OF SECTION